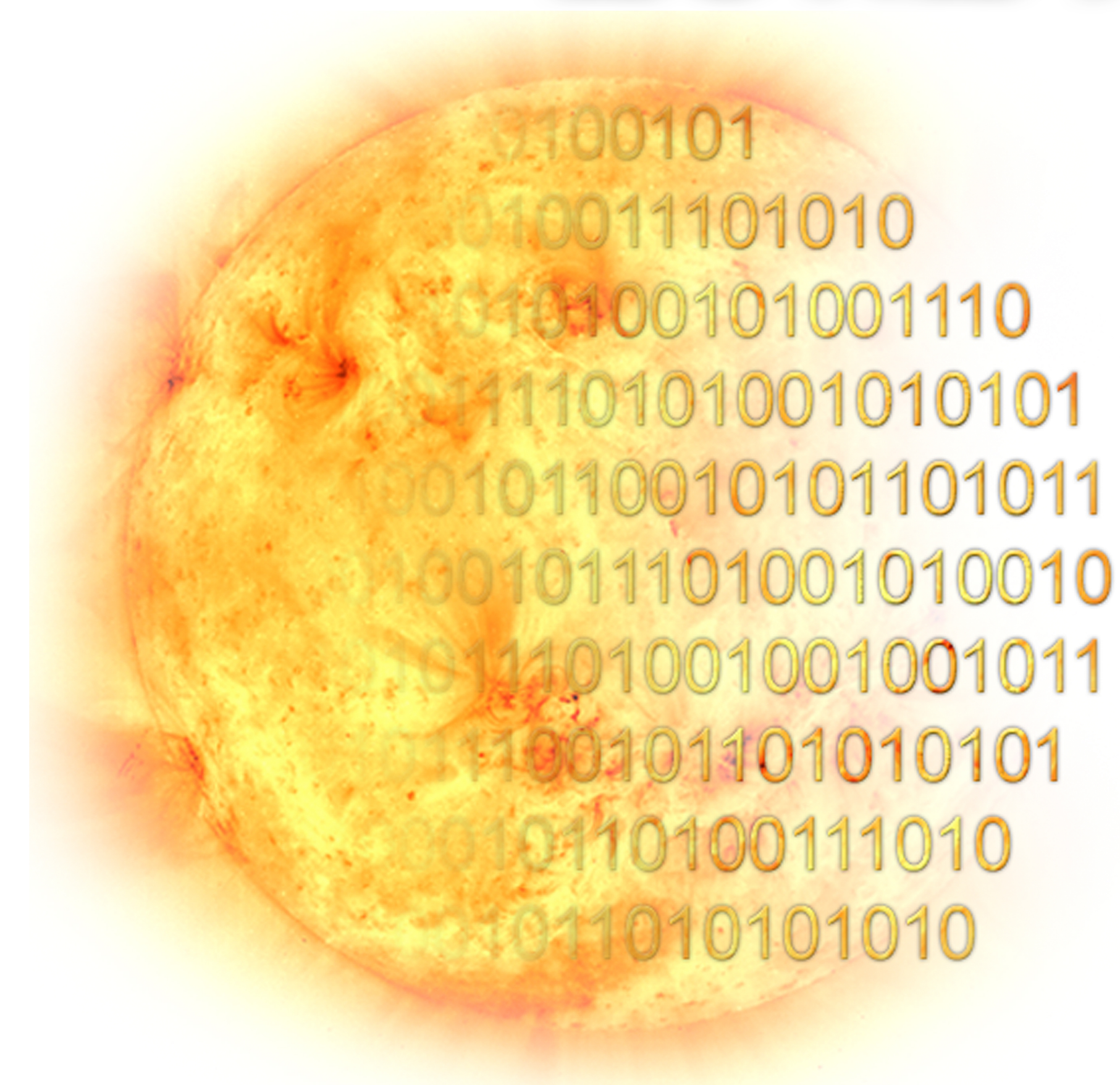


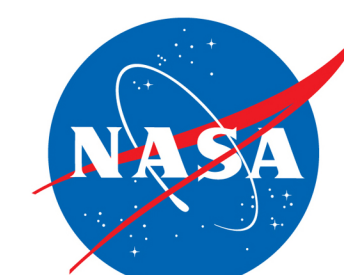
201.24 – The Virtual Solar Observatory: What Are We Up To Now?



J.B. Gurman, J.A. Hourclé, V.K. Hughitt - NASA Goddard Space Flight Center



R.S. Bogart and A. Amezcuca - Stanford University



F. Hill and F.I. Suárez-Solá - National Solar Observatory

P.C. Martens - Montana State University

A. Davey - Harvard-Smithsonian Center for Astrophysics

ABSTRACT. In the nearly ten years of a functional Virtual Solar Observatory (VSO), <http://virtualsolar.org/>, we have made it possible to query and access sixty-seven distinct solar data products and several event lists from nine spacecraft and fifteen observatories or observing networks. We have used existing VSO technology, and developed new software, for a distributed network of sites caching and serving SDO HMI and/or AIA data. We have also developed an application programming interface (API) that has enabled VSO search and data access capabilities in IDL, Python, and Java.

We also have quite a bit of work yet to do, including completion of the implementation of access to SDO EVE data, and access to some nineteen other data sets from space- and ground-based observatories. In addition, we have been developing a new graphic user interface that will enable the saving of user interface and search preferences. We solicit advice from the community input prioritizing our task list, and adding to it. more data sets, new missions, and new access methods using its application programming interface (API).

“Under the hood” (VSO as back-end)”

SDO AIA and HMI data distribution network

NSO, SAO, SDAC, ORB, MPS (Lindau), UCLan

Added support for HMI 720 s series

Installed remote DRMS at SDAC

Java data Mirroring Daemon (JMD)

Updated for compatibility with three releases of NetDRMS

Now interacts directly with export mechanism

Modified to allow matching of an sunum with a set of rules

Modified VSO WSDL to work around older SOAP::Lite versions

(upgrade WSDL to use floating point for wavelengths)

Revised VSO internals to allow updating all sites from SDAC

User Interface and API (new capabilities)

Staging: tarball packaging (currently via VSO Web GUI only)

Staging supported at NSO, SAO, and SDAC

AIA synoptic data product service (/quicklook, IDL client only)

IDL client

Added keywords for AIA exposure time (exptime)
and percentage of missing data (percentd), flags for darks
and automatic exposure control

Added *vso_info* (/instrument, /source) so users could
display allowed values before making *vso_search* calls

Added environment variable VSO_DEFAULT_SITE for
vso_get calls

Support for ESA summer of code effort that added VSO API
calls to SunPy (SolarSoft-alike package for Python)

Continuing work on new Web GUI

Region of Interest Datacubes

Extract a time series of region of interest-centered samples
from a time series of larger field of view (usually full-disk)
images

Still in early prototype stage: See adjacent poster 201.25!

Recently added Data Providers

SDO EVE (LASP)

GONG H α (NSO)

Calibrated GONG magnetograms (NSO)

CLIMSO

Data Providers In Progress

Mt. Wilson Ca II Carrington maps (already have
individual images)

ChroTel (KIS)

TRACE “Resident” (HDR FITS) archive

Data Providers with Changed Security Requirements (in Progress)

NGDC

MLSO

SFO – data mirrored to SDAC, not yet served

Miscellany

Continue to work with NASA Heliophysics
“VxO”

Will be accepting physical media with data
from some CORONAS-Photon instruments
and attempting to associate them with
metadata so we can find some way to serve
them. Unfortunately, they’re not in FITS format

*What do you think we should be
prioritizing?*

<http://virtualsolar.org/>